

THE MOLE AND AVOGADRO'S NUMBER

Name _____

M

So

1

One mole of a substance contains Avogadro's Number (6.02×10^{23}) of molecules.

atoms

How many ~~atoms~~ are in the quantities below?

1. 2.0 moles

2. 1.5 moles

3. 0.75 mole

4. 15 moles

5. 0.35 mole

atoms

How many moles are in the number of ~~atoms~~ below?

1. 6.02×10^{23} atoms

2. 1.204×10^{24} atoms

3. 1.5×10^{20} atoms

4. 3.4×10^{26} atoms

5. 7.5×10^{19} atoms

Convert the following amounts. Show all work with units.

$$2.5 \text{ mol K} = \underline{\quad? \quad} \text{ atoms K}$$

$$3.1 \text{ mol Ca} = \underline{\quad? \quad} \text{ atoms Ca}$$

$$5.2 \times 10^{24} \text{ atoms O} = \underline{\quad? \quad} \text{ mol O}$$

$$4.2 \times 10^{23} \text{ atoms N} = \underline{\quad? \quad} \text{ mol N}$$